

DOCUMENT RESUME

ED 150 803

EC 103 929

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TITLE Teaching Mothers Mothering.
INSTITUTION National Inst. of Mental Health (DHEW), Rockville, Md.
REPORT NO DHEW-ADM-77-520
PUB DATE 77
CONTRACT 278-76-0033(ST)
NOTE 23p.
AVAILABLE FROM Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (Stock No. 017-024-00697-1)

EDRS PRICE MF-\$0.83 HC-\$1.67 Plus Postage.
DESCRIPTORS Disadvantaged Youth; Early Childhood Education; *Economically Disadvantaged; Exceptional Child Research; Home Programs; Infancy; *Parent Education; Program Effectiveness; Stimulation

ABSTRACT

Described is a project in which poor Black and White parents were trained by paraprofessional visitors to use simple stimulation activities with their infants. Results of Stanford-Binet Scores at age 6 are said to indicate that four of the seven experimental groups scored significantly higher than control groups; and followup at grade 3 indicated that of 30 children who stayed in the program longer than 1 year, 28 attended regular classes as compared to only 14 of 20 controls. Considered are factors related to children's outcome (including mother-child interaction and the mother's view of locus of control); changes in the mothers (including greater self esteem); and class differences in childrearing. Other topics dealt with include ideas for a prevention program, effects of changes in teaching methods, parent-child interaction patterns; and methods of involving parents in school. (CL)

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National Institute of Mental Health



Teaching Mothers MOTHERING

by Herbert Yahraes

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U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service
Alcohol, Drug Abuse, and Mental Health Administration
National Institute of Mental Health
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This publication was prepared under
contract number 278-76-0033(ST)
from the National Institute of Mental Health.

DHEW Publication No. (ADM) 77-520
Printed 1977

FOREWORD

Do early intervention programs significantly stem the adverse influence of deprived environments on the infant's cognitive development? For decades, and particularly since the 1960's, this question has intrigued social scientists, policymakers, and laypersons alike. In forcing us to ask precisely "how" an enriched environment enhances the development of young children, the question has inspired a widely held appreciation of the critical role of parents as primary, long-term socializing agents. Fortunately, though perhaps not coincidentally, this view has crested during the current renaissance of interest in the role of prevention in mental health and early development.

Dr. Ira Gordon, currently the Dean of the School of Education at the University of North Carolina at Chapel Hill, has been involved in extensive intervention efforts with the families of children who live at the lowest end of the socioeconomic spectrum. An exciting aspect of Dr. Gordon's research, described in this report, was conducted while he was Director of Florida University's Institute for Development of Human Resources. Dr. Gordon and his colleagues believe that, if it is to be effective, intervention must begin early; it must have some continuity over time and not be merely a brief "one-shot effort"; and it must involve the child's parents, *particularly* the mother, if the child's cognitive status is to be improved. Gordon and his coworkers took their intervention program into the home and worked directly with the mothers to teach them more effective ways of stimulating their young children.

The results were positive, as measured not only by the children's "intelligence," but also by the mothers' self-esteem and their sense of control over the environment. The investigator's work strongly suggests that maternal attitudes and expectations hold the key to full development of cognitive skills for those children who are at the greatest risk.

This report, one of a continuing series describing major NIMH projects, reflects the importance of applying both social science skills and social action in an area of prime concern to all citizens.

Bertram S. Brown, M.D.
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TEACHING MOTHERS "MOTHERING"

by Herbert Yahraes

Introduction

Any parent of normal intelligence and average emotional health can be reasonably confident that an infant who is unburdened by genetic and constitutional defects will develop into a competent and mentally healthy youngster. Consider the work of Ira J. Gordon dealing with parents at the lowest socioeconomic level and their babies. It is such children who are at the greatest risk to educational failure, personality disorder, antisocial behavior, and mental illness. If the simple methods developed by Dr. Gordon and his associates at the University of Florida* can prevent dire outcomes in such families, they may be equally effective in families higher up the socioeconomic ladder.

Description of the Project

The Florida intervention project was directed at the parents because research by other investigators had shown that the effects of working with the children directly, although substantial for a while, tended to fade and disappear after the extra effort stopped. If the *parents* could be taught how to help the child develop his inborn capabilities, Gordon reasoned, the effects of the intervention program ought to be still felt for a considerable time after the end of the project. And if the disadvantaged children succeeded in entering grade school at the same behavioral and educational level as most other children—instead of the usual lag of a year or 2, which most

*While this report was in press, Dr. Gordon became the Dean of the School of Education, University of North Carolina, Chapel Hill.

such children never do succeed in overcoming—the effects might turn out to be permanent; certainly the child's confidence in his ability to stay in the mainstream would be enhanced.

As Gordon points out, there is a definite relationship between self-concept, or how a person sees himself, and mental health. There is also a definite relationship between self-concept and competence. When a youngster knows he can read, for example, the child's self-concept is improved, and the foundations of mental health are strengthened.

Events through the years — starting in 1966, when the first families were visited — have shown that Gordon was right.

In addition to influencing the child indirectly through the mother, Gordon's program was marked by two other features. First, work with the mother began when her child was only 3 months old. Second, the people who worked with the mother—they were called *parent educators* (PE's)—were women from the same social class as the families they worked with.

The paraprofessionals taught the mothers ways to stimulate the perceptual, motor, and verbal activities of their babies and to be aware of and to meet their emotional needs. In the investigator's words, the aim "was to investigate the effectiveness and practicability of a home-centered technique for cognitive, language, and personality development of mother and child, based upon the use of parent and child educators who are themselves members of the population served." If effective, Gordon pointed out, this innovation in family services would extend the reach of the professional, upgrade the competence and importance of the nonprofessional, and, in the long run, as participants became more capable of meeting their own needs, reduce the need for intervention.

The experimental group embraced 150 families, about 80 percent of which were black and the rest white, in 12 counties. They included representatives of the urban poor, living in Gainesville and other cities, and representatives of the rural poor, living in small towns and settlements or in isolated, unpainted cabins as much as 2 miles from a water supply. In some cases the new baby was the mother's first; at the far end of the scale, the eighth or ninth. In half the homes the father was absent because of separation or divorce or because the mother was unmarried.

Visits to the homes showed that, in general, the mothers were taking care of the baby's physical needs, though very often on a haphazard basis, but characteristically did not talk to the baby, did not play with him or her, and did not offer praise for accomplishments. Frequently the homes contained neither books nor magazines. But most homes that had electricity also had television sets, usually turned on high to the soap operas.

"As we looked at the homes," Gordon says, "we felt that the predominant problem was not whiteness and blackness but the cultural poverty. We found poor black homes that were doing a good job with the kids and poor black homes that were doing a terrible job — and the same thing in the white population." The staff did find one racial difference: It was harder to keep whites in the program, possibly because the extra attention they were receiving may have hurt their pride.

There were two control groups of 30 families each. The families in one received no services; those in the other were visited once a month by a nurse, who showed interest in the baby and the family and took pictures. Her activities were an effort to control for the so-called Hawthorne effect—that is, to learn if a simple show of interest would produce changes comparable to those that might occur in the experimental group served by parent educators. (The answer turned out to be "no.")

The parent educators, or PE's, ranged in age from 18 to 55. They had to meet fairly simple requirements: a high school diploma, some experience with young children, a warm personality, and sufficient clerical skill to maintain a record of what they had done and observed in the homes. During the training period, which ran for 6 40-hour weeks, they learned to demonstrate and explain the great variety of activities—known to the project as *tasks*—they would be teaching the mothers. They worked at first with dolls and then with children. Once the home visits began, the program added inservice training, 1 day a week, to increase the ability of the PE's to recognize and deal with different types of mothers and children.

In keeping with the distribution of races in the project's families, 15 of the parent educators were black, 3 were white, and it was planned that each PE would visit only families of her own color. For greater ease in scheduling visits, however, this plan was dropped after the first year, so that blacks sometimes visited white families, and whites sometimes visited black families. The color of the PE, Gordon reports, made no difference either in her acceptance by the families or in the results obtained.

Visits were made once a week and lasted less than an hour. The PE would ask how well mother and child were carrying out the activity introduced during the previous visit, would answer questions, and then would demonstrate a new task and rehearse the mother in it. The tasks, which were based on studies showing how children develop language and other mental abilities and sharpen their skills and senses, were as much the creation of the paraprofessionals as of the project's professional staff. Many of the activities required no material or material available in even very poor homes. Equipment

not usually available, such as paper, glue, crayons, books, and small toys, was supplied by the project.

Of the following examples of activities, the first two are typical of those introduced during the child's first year; the last, during the third year.

- With the baby lying on his back, hold a rattle about 12 inches above his stomach. Shake the rattle until the baby looks at it; then say, "See the rattle." Move the rattle slowly toward the baby's hand until he looks at hand and rattle simultaneously. Then say, "Get the rattle." When the baby grasps the rattle, smile, speak to the baby by name, and say, for example, "Johnny has the rattle." Purpose: to help the baby connect grasping with seeing and action with action words.
- When the baby is relaxed and happy in your arms and facing you so he can watch your lips, say some sounds he is not familiar with, such as "brr-own" and "ghrr-ate." Give the baby time to make his own sounds. When he does so, respond with a laugh, a smile, or an encouraging nuzzle. Purpose: to help the baby make speech-like sounds.
- Have your child help you use crayons to color some popsicle sticks. Then lay out a color pattern, talking while you do so. Say, for example, "I put red, yellow, and another red—two red sticks with a yellow stick in the middle." Ask your child to copy this pattern. Then let him make a pattern for you to copy. Primary purpose: to teach the child to recognize colors. This activity can also be used to help the child grasp the meaning of numbers.

At least as important as the activity itself was the interaction it brought about between mother and child.

The parent educators also listened to parental problems. In middle-class homes, Gordon has found that such problems generally pertain to childrearing. But in the lower-class homes of this project, most of the recurring major problems related to the families' poverty. "I've got nine kids," a mother would say, "and a part-time job which makes enough money to keep me off welfare, but I haven't got enough money to feed my children." Or, "My husband is making a good living, but he's drinking it all up, so I don't have any money for my kids." Or, "I don't know how to get commodity foods." More than childrearing, the problems concerned basic survival.

Since the project was not equipped to handle such problems directly, it acquainted the parent educators with the available social services and assigned them to be referral agents. Then it had to tell the paraprofessionals where their limits were. "Because they had

come out of the same boat the family was in," Gordon recalls, "they'd identify very strongly with a family and want to do what a new and naive social worker often does—try to run around and do everything themselves. We'd have to say, 'Now wait a minute. If you're going to help that mother improve her locus of control—help her feel that she herself is greatly responsible for what happens to her and the family—you've got to work with her so she does things herself.'

"Then the paraprofessional would say, 'But she doesn't have a car, you know, so how is she going to get there?' We'd say, 'Okay, if you want to drive her, but she's got to talk to the man—you can't talk for her.' We did get into all kinds of problems not strictly related to what we were doing."

When the children were a year old, half of the control children were randomly assigned to the home-visit program and half of the children in the home-visit program were randomly assigned to the control group. These changes were made so that at the end of 3 years the investigator could make comparisons among groups that had been in the program for varying lengths of time and at varying ages.

In a second and major change, the project used an NIMH grant to set up a number of home-learning centers so that the children from 2 to 3 years old could benefit from contact with peers. The centers were the homes and backyards of some of the project families. Three were established in low-income housing projects in Gainesville and one in each of four Florida towns. Twice a week, 2 hours at a time, groups of five children each would meet there to engage in group and individual activity and to interact with the PE. The mother who lived in the home was employed as the PE's aide. The home visits continued.

This program was not day care, Gordon points out; it was more like an abbreviated nursery school experience.

Part of the inservice training day was set aside for meetings of the Home Learning Center directors, university faculty members, and graduate students to discuss difficulties and to develop ideas for improving relations among those attending the centers. Also, each PE had a private conference each week with a faculty member to review her activities and receive guidance. When a PE wanted special help, a faculty member would make home visits with her.

The Findings

The project has not been in touch with the children since they were 3 years old, except to administer tests. But it expects to follow

them—through those tests, school records, and teachers' observations—until they have finished fourth grade. The findings now available are summed up in the rest of this section.

IQs at 6. Statistically, four out of the seven experimental groups scored significantly higher than the controls on the Stanford-Binet intelligence test at the age of 6. This was 3 years after the end of the program. The groups, together with the differences between each one's average score and that of the controls, were as follows:

1. Children in the program all 3 years scored 7.2 IQ points higher than the controls.
2. Children in the program the first 2 years only scored 9.4 points higher.
3. Children in the program the last 2 years only scored 6.2 points higher.
4. Children who participated only in the Home Learning Center part of the program, which began when the children were 2 and ended a year later and which included weekly visits to the home by parent educators, scored 5.6 points higher.

The differences in the IQ scores among treatment groups are not statistically significant. In other words, it is impossible to say that one treatment schedule yielded better results than any other, as measured by IQ scores. Gordon reports indications, however, that the 3-year program pays off the most consistently and also has the most effect on the home.

The average scores of the children in those four experimental groups ranged from 94.2 to 98; that of the controls was 88.6. (The average IQ of black children of 5 or 6 years of age in five South-eastern States is 80.) White children and black children in the program had average scores that were approximately the same.

Gordon points out that the differences produced by the intervention, though they were not startling, were sufficient to move the children into the range of normal intelligence. The findings suggest that the earlier in a child's life such an intervention program is started, the greater the probability that it will make for a significant rise in his or her intellectual competence. However, Gordon notes that even those children who took part in the program only from age 2 to age 3, when the Home Learning Center was introduced, scored higher than the controls.

Three other groups did not score significantly higher than controls: those who were in the program their first and third years, or their first year only, or their second year only. Least successful was the group that entered at 12 months and left at 24 months. "Our feeling has been," Gordon comments, "that the period from the first

year to the second is difficult because so many things are going on at once, particularly in terms of motor development." Also, as found by other investigators, the child is likely to act negatively during a good part of that period, even to the extent of refusing requests simply in order, it often seems, to aggravate the mother.

Results at Grade 3. Of 30 children who stayed in the program for more than a year, 28 were in regular classes in third grade and only two were in special education classes, which are classes for those who have fallen decidedly below the level of their classmates. This was 6 years after the end of the intervention program. In contrast, out of 20 control youngsters, 6 were in special classes. The difference—6 out of 20 in trouble educationally as compared with 2 out of 30—is statistically significant at the .05 level.

Factors Related to Children's Outcome

Apart from the teaching of mental and motor skills by the mother, and the evidence she incidentally gave the child of her love, interest, and expectations for him or her, other family practices were found to be important. Prominent among these was the extent to which the family recognized the influence of the environment in shaping the child. To assess this factor, the project asked, for example: Are there books in the home? Does the family use the library? Is the child taken to the zoo, the museum, other places? When the child uses incorrect language, is he or she corrected? Does the family know how the child is doing in school? The answers to these and other questions were grouped into seven variables. For every one of the variables, there were differences, when the children were 6, between the mothers whose children were in the program and the mothers of children in the control group. The variable dealing with the extent to which the family took advantage of community opportunities for learning turned out to be a particularly potent indicator. Gordon is not sure that the differences between families with respect to this factor can be ascribed entirely to the work of the parent educators. However, when the children were between 2 and 3, the PE's did encourage the mothers to take advantage of the libraries' pre-school story-telling hour and to use the bookmobile service.

In other work, Gordon and his associates have further demonstrated the importance of mother-child interaction. The subjects in this research were 128 mothers and their new babies from families below the poverty level. Mother-baby interaction was videotaped a number of times, beginning when the child was 3 months old, and tests of infant intelligence were administered at the age of 1 year. The outcome: Children whose mothers talked *with* them rather than *at* them, who gave them interesting things to do, and who

encouraged them to stay with an activity were more likely than other children to score well on the tests.

Gordon points out that the findings of his studies are similar to those of other investigators, both in this country and abroad. "The role of the caring adult—I don't want to limit this to the mother—in providing intellectual stimulation, security, and a loving relationship," he says, "seems to make a fundamental difference." More than any other single factor, he believes, such a person's influence early in a child's life, or the lack of such influence, helps determine not only intellectual competence but also emotional strength and mental health.

Also important were the mother's attitude toward the project and her view of locus of control—that is, whether or not she thought a person could influence what happened to her, or to him. The better her attitude when the child was 3 and the stronger her belief that she had some control over events, the more likely her child would score well on the IQ tests at the age of 6.

That's for the children as a group. Sex made a difference. The best predictor in the case of the girls was the extent of the mother's education. With boys, the best predictors were the mother's satisfaction or lack of satisfaction with her appearance and her social relations, and also her attitude toward the project.

Changes in the Mothers

When the University of Florida team was planning the original project, Gordon hypothesized that one of the results would be an increase in the mother's sense of personal worth. Psychological tests given at the end of the intervention, when the children were 3, did not confirm the hypothesis. But interviews with the mothers when the children were 6 suggested that the project had indeed brought changes. Compared with mothers of the controls, significantly more of the mothers in the project (a) were married, (b) had gone back to school or taken adult-education courses, (c) had moved into better housing, (d) were holding a better job, and (e) were involving their children in neighborhood or community activities. And significantly more of these mothers wanted their child to finish high school at least; thought that the child, when grown, should make his or her own choice of occupation; reported that their child was doing better academically than other children; and said that their 6-year-old was teaching other children in the family things he or she was learning in school.

There were other hopeful findings when the children were 6. Mothers who had been in the program all 3 years saw themselves, compared with mothers of control-group children, as significantly:

- more involved with their children's development and learning;
- more engaged in self-enhancement;
- more aware of the child's individuality;
- more achievement-oriented and upwardly mobile.

The investigators infer that the mothers in the program for 3 years have higher self-esteem and a greater sense of managing their own lives than mothers of control-group children. Mothers whose children were in the project for 1 or 2 years only were significantly better than control-group mothers on only some of the factors listed.

As an important incidental result, Gordon points to the paraprofessionals who worked as parent educators. "If you want to see what happens with the development of self-concept," he says, "you should look at that group of women. They're proud of themselves, they've grown, and they've sought additional schooling." Two are getting their bachelor's degrees at the university. Many are working at a large institution for the mentally retarded.

The project has had a wider effect as well. A number of community mental health centers in Florida are developing intervention programs, with the emphasis on visiting the homes of infants; also, the State legislature has called upon each school district to involve parents in the educational process. Further, Gordon's ideas and those of half a dozen other investigators working along similar lines are being applied in a number of communities across the Nation as part of the Follow-Through program. "To do something with parents, to involve them in some way," Gordon observes, "is becoming part of the general thrust in childhood education."

Now the project will backtrack. It knows which children have been identified by the schools as emotionally disturbed and which ones have been assigned to classes for those who have fallen behind. It will now look at what these children were like earlier.

The project will also investigate the persistency of nonpersistent behavior. This much is known: The nonpersistent and impulsive children in the home learning centers—meaning the youngsters who tended to wander around and not focus on any one activity—were likely to have a lower-than-average IQ score at 3. But this relationship did not hold at 6. Since Gordon views persistence as a highly important characteristic from the standpoint of both achievement and mental health, the children are being rated on this quality by their third- and fourth-grade teachers, who do not know which students were in the project and which were not. When the ratings are completed, a computer search will determine whether or not lack of persistence today is related to the same characteristic years ago, when the children were between 2 and 3.

Class Differences in Childrearing

With respect to the quality of childrearing, the investigator emphasizes, the population under study proved to be heterogeneous. The typical mother in the study does less well than the typical middle-class mother in teaching language, in interacting with the child, in getting the child to read by her own interest in reading, and in taking advantage of community facilities. But there were some families among those studied that did these things very well and others that did them scarcely at all. In a middle-class population, Gordon says, the average would be better, but there still would be parents doing a very poor job.

Why the difference? "One of the clues," Gordon answers, "comes from Mary Ainsworth's work with middle-class families in Baltimore. She was studying the responsiveness of the mother to her children, which is generally held to be an important part of parenting. She found that 43 percent of the mothers were not responsive. A child would cry, and they'd just let him or her cry; another child would ask for something and simply be ignored."

Similarly, in Florida, parent educators who had been visiting the homes of university professors in connection with one of Gordon's studies reported that in some of the homes something was missing. Gordon quotes a typical comment: "Well, first of all, the kid has a room of his own, and he's got toys, and he's got this and that. But I don't see much going on in terms of a love relationship. I visit in our homes, and the kid may not get enough to eat, and he doesn't have privacy, and maybe he is physically punished. But I also see some *warmth*." The investigator adds: "I think all of the families in this country are in trouble in some way. All need support of one kind or another."

He gives another example. "Middle-class families call us up about being involved in a new project, and we tell them, 'We're going to be taping you until the child is 1, and we'll need both mother and father that whole year.' Then we've had the mother or the father tell us, 'well, we're only going to stick together until the baby is born.' They know that already, and the father may even be into natural childbirth with the mother. What's going to happen to that child?" He adds: "We can't take such couples, of course, so we're going to have a somewhat skewed sample, the skewed sample comprising what we used to think of as the conventional family."

Ideas for a Program of Prevention

If Gordon were doing the study again, he would begin with a prenatal program—simply because he thinks that the earlier you

can get to the parents in helping them understand children, the more you can influence them. Also, he would put more emphasis on helping the parents to understand "the affective domain"—the world of the emotions—and how it influences health and behavior and to recognize the difference in temperament from child to child. "We know from the works of Thomas, Chess, and Birch in New York," he points out, "that babies can differ on a number of dimensions of temperament. For example, some babies need to be fed every 4 hours and some every 2; some babies sleep more than others; some sleep more in the day than others and are up more at night. Brazelton finds much the same thing in Massachusetts. The differences seem to be constitutional, yet in the information given mothers about childrearing they have often been ignored. And mothers who have had experience with, or been given information about, one or two types of babies may be quite unable, without guidance, to adapt their expectations to a different type. We have to help parents know about their child's activity rate—for example, know about their child's openness to the environment, know about their child's sensitivity."

Gordon would also place greater emphasis on the process of interaction between parent and child and on helping parents learn to be more responsive to the child. "Responsiveness," he notes, "takes a certain level of parental self-esteem, self-assurance, and comfort. It also takes a certain level of support from each parent for the other parent."

The problem with putting such ideas into effect, Gordon points out, is that they are not simple, so the effort might not be cheap. "Yet the tenor of legislation is to look for simple, cheap, and fast solutions—and there are none."

He feels strongly about finding ways to strengthen the ability of parents to develop competent and mentally healthy children on their own. So he is not looking for "solutions that institutionalize children early—that extend school downward to the earliest years as an institution. Rather, I'm looking for ways to develop supportive services that enable families to do better than they can do now."

The investigator points to several trends that make it difficult for families to survive. "How can we put the burden for childrearing on the family," he asks, "if the society is organizing itself in a way that makes it impossible for a family to carry that burden? What are we really doing with the mental health of parents when we say, 'You're responsible for raising your kids, but if you want to succeed in business, you've got to move'—as in the case of a man I met just the other day—14 times in 17 years to go up the corporate ladder? What are we doing to that family? Or to a welfare family when we say to the mother, 'You're a horrible woman because you're not working,

but we're going to pay you so little that you cannot hire an adequate babysitter to care for your child, and we are not going to set up adequate day-care services.' What happens to her child if she works?

"I think we have to look beyond education and beyond mental health to the larger picture. For instance, North Carolina is developing a large-scale testing program of 4-year-olds, to uncover children with problems. But once the problems are uncovered, there is no system to do anything about them. Again, we're putting money—through the National Institute of Mental Health, the Office of Child Development, and other agencies—into early diagnosis, but we have no system to treat the children once they have been diagnosed.

"We really ought to sit down and get a more synthetic—a more comprehensive—view of what the whole thing is about. Basically we need a program of prevention."

As a major part of a preventive program, Gordon would get adolescents involved with young children. "The American high school is in terrible trouble," he says, "because so many of the students think that what they're learning is irrelevant to where they're at and because there is no longer a productive role for an adolescent in American society. It used to be that a boy or girl could get a job at 14, or even earlier, but not now.

"So we have this need for day care, and we have this need for giving adolescents a productive role. We can meet both of these needs to a considerable degree by setting up a child-care program in a junior and senior high school framework. Adolescents would then not only be performing a productive role but would also be learning what is involved in taking care of a child.

"Then a 13-year-old girl might say to herself, 'My goodness, look what it takes to really raise a kid properly,' and she might then think twice about having her first illegitimate child. Maybe not, because there are all kinds of peer pressures on her. But the experience of caring for young children as part of her schooling will certainly have some influence on how she goes about caring for her own children."

Gordon points out that the Office of Education and the Office of Child Development fund a program called "Exploring Childhood" that includes academic work in child development and also some field experience but, he says, the program is too small. He advocates the establishment of good day-care programs in connection not only with schools but also with industrial plants and government agencies, places where many women with small children work. "An increasing number of women with children under the age of 3," he points out, "are going into and staying in the work force. So, in the interest of prevention, we've got to do something to help those

children have good care and to help those mothers supplement and complement that care—through what they do with those children at home in the evenings and on weekends."

Gordon rates many of the existing day-care programs as very poor, "because a good program costs money and also because many women don't understand the importance of a developmental program," which seeks to help children develop their innate abilities. "Many women are simply concerned with *garaging*—with knowing that their child is being fed and changed. They don't understand that the whole area of interaction, stimulation, and attention is highly important."

Effects of Changes in the Teaching Strategies

In a separate project, the University of Florida team set out to answer, among other questions, (1) whether people who were better qualified educationally than paraprofessionals would get better results, and (2) whether it was more effective to work through the mothers or directly with the child. There were 128 families, plus 30 controls. Half the parent educators, like those used in the first project, were women who had graduated from high school. The others, considered professionals, were college graduates who were studying for a master's or a doctor's degree in education or psychology.

When the children who had received the workers' direct attention were compared with those whose mothers had received it, no differences were found at age 1, when the project ended. Nonetheless, the mothers who had received the direct attention were judged to be better teachers than those who had been simply onlookers of the activities with their children.

As for the professional-paraprofessional issue: (a) the families accepted the professionals and paraprofessionals equally well; (b) the professionals seemed to be more effective than the paraprofessionals in working with the mothers of girl babies and to be as effective as the paraprofessionals with the mothers of boy babies; (c) the professionals were considerably less effective than the paraprofessionals in working directly with boys. In any further studies, Gordon would stick with the paraprofessionals because the work of a parent educator "is a meaningful social job that can be taught to people without advanced education."

"Ping-Pong," Persistence, and Professing

Associated with high scores on developmental tests at the end of the child's first year, particularly in the case of girls, was a behavior labelled "ping-pong." The investigator describes this as "a you-do-something, I-do-something, you-do-something, back-and-forth activity between mother and child. The mother elicits, the child responds, the mother elicits or corrects, the child responds, the mother elicits, and so on." The activity came to light when videotapes of sessions among parent, child, and parent educator were analyzed. Some of the mother-child pairs often engaged in it even when the child was only 13 weeks old, which was at the start of the study; others at that time engaged in it rarely, or not at all. Since the parent educators encouraged mothers to be aware of and respond to their babies' activities and vocalizations, this interaction gradually increased in all the homes. Beginning at 25 weeks, there was a consistent relationship between "ping-pong" activity and test scores at 12 months.

A characteristic labelled "persistence" also was found to be important. The parent or the parent educator would start the child on some activity and then step back. The longer the child continued with the activity, the higher his or her score on persistence and, on the average, the greater his or her developmental score at the age of 1. "We've been trying to get teachers to do this for a long time," Gordon says, "... to show the child how to do something and then step back and let him or her do it. It's interesting to find that persistence makes a difference even during the first year of life."

Another positive pattern was "mutual gazing," or eye-to-eye contact between mother and child as recorded a number of times during the first year. The amount of *brief* mutual gazing (between 1 and 3 seconds) at 19 weeks was positively related to language development at 52 weeks in boys. The amount of *prolonged* mutual gazing (over 3 seconds) at a number of points during this 1-year study was positively related to scores on other developmental test items at 52 weeks, but again only for boys.

A negative pattern turned up as well. Gordon labelled it "professing"—"talking at, followed by talking at, followed by more talking at the child without being really tuned in to him or her." It seemed to be more characteristic of parent educators who were at the professional level—those with a master's degree—and were working with boys. These boys on the average had lower scores at the age of 1.

Effect of Sex Differences

Recently the Florida team started work on a new NIMH-supported project to investigate differences in the relationships of parents to their children during the first year of life. The differences are expected to vary both with the sex of the parent and the sex of the child. The team's earlier work, Gordon points out, seems to show that the mother's view of herself has greater influence on boys than on girls, while the teaching relationship—the ping-pong activity—seems to influence the girls more than the boys.

The new project is confined to middle-class families with their first child—40 with a recently born boy and 40 with a recently born girl. The hope is to uncover some basic processes of parenting that influence a child's mental health and that can be taught to prospective parents.

Working to Get Parents Into the Schools

In addition to directing the projects described to this point, Gordon heads a team of 15 faculty members and a number of graduate students, all from the University of Florida, that has helped to institute and guide the Federal and State Follow-Through programs in 11 communities in 10 scattered States. Included are Jacksonville and Tampa, Houston, Chattanooga, Richmond, Philadelphia, Yakima (in the State of Washington), and one small community each in South Carolina, Arkansas, Indiana, and Wisconsin. Teams from other universities work in other communities. Follow-Through, a followup of the Head Start program, is concerned with children from kindergarten through third grade.

In the intervention projects for very young children, Gordon and his associates were, in the main, training parents to be teachers in the home. In the Follow-Through projects, in addition to increasing parents' skills as teachers of their own children at home, they are introducing parents into the school system as volunteers, observers and learners, and home visitors. They are trying to get the parents involved also in such decisionmaking processes as those concerned with the school system's program and budget. "With such activities," Gordon says, "the school becomes a humane place where people can talk with one another rather than a bureaucratic operation where everybody is at a distance."

Gordon explains why he likes to see parents working in the school. "The more the parents feel that they have some control over

what's happening to them and their child, I think the more effective parents they can be. Parents have been told by school people for many years—maybe not in so many words—that they don't know anything about education, so they should keep their hands off. When that trend is reversed, I think the parent gets a feeling of self-worth that is extremely important. Also, I think that very often parents feel that the school is an alien place and that the teachers are getting paid for not doing anything much. When a mother goes into the school and starts to work, though, she gets a different appreciation of the teacher's job and comes to see her or him in a new light. And the teacher begins to see the mother in a new light. When home and school develop a common view, the beneficiary is both society and the child."

A recent report of Follow-Through achievements in the cities for which Gordon is responsible showed that a surprisingly high proportion of parents had volunteered to help teachers in the classroom. The rate ranged from 27 to 96 percent of the families sampled.

Problems have arisen, to be sure. "There are some teachers who say, 'I don't want anybody in my room,'" Gordon notes. "And there are some parents who say, 'Why should I go to work in the school? I'm not a teacher; I wouldn't know what to do.' So we try to begin at the lowest level of agreement. The teacher may say, 'Well, if that mother wants to come and watch how her kid's behaving, okay—she can come.' So we start there. If she says, 'Well, if she wants to help me fix a bulletin board, I'll tell her what to pin up,' we'll start there. We start wherever the two of them feel they could be comfortable with each other and gradually try to move them toward higher levels of work."

The paraprofessionals—the parent educators—have helped the process by talking to teachers about the activities the mothers have learned and suggesting that mothers be invited to demonstrate these in the school.

Gordon calls the Follow-Through program "the best concept the Government has ever had for intervention with school children. Before this program, the Government would give money directly to the school system, with the result that when the money died, the program died, too. Or the Government would fund scholars to develop ideas, with no way of getting the ideas into the real world. In Follow-Through, in contrast, a group of university people with ideas have been tied together with a group of local school systems, and both have worked hand in hand in developing, implementing, and evaluating changes." At the beginning, the Florida team—through which Federal support is channeled—bore responsibility for the programs in its 11 communities, but the team has gradually

disengaged itself, and the programs are now mainly in the hands of the local school systems and parents. Most of the systems could go ahead on their own, Gordon believes, even if Federal support diminished.

As an example of what has happened, this investigator cites the Follow-Through program in Yakima, Washington, where the public schools are served by more than 40 parent advisory boards. Many of the boards are concerned with curricular and extracurricular activities at individual schools; 15 deal with vocational guidance; others serve specialized programs, such as the one for the education of migrants.

Moreover, from September to February of a recent school year, parents contributed more than 14,000 hours of school-related work. Parental activities included helping students overcome scholastic troubles, advising students with other problems, and assisting in such activities as a book fair. During the same period, school personnel made almost 11,000 home visits to discuss educational opportunities and problems with parents and children. Conferences with the parents of all elementary students are held twice a year. A score of Parent-Teacher-Student Associations have been organized.

The school district's Career Awareness Center lists more than 850 community resource people who have volunteered as classroom speakers, conductors of field trips, and occupational advisors. The center handles 350 requests a month from students and teachers.

To increase communication between the home and the school, the high school has instituted the Guide Teacher Program. Each guide teacher is assigned 30 students, who are counseled at least once a week, on a one-to-one basis, concerning academic, personal, and career questions. Before school opens in the fall, guide teachers visit each home. "One guide teacher to 30 students," said the high school in announcing the program, "is much better than one guidance counselor to 400 students."

In the Interest of a Competent and Mentally Healthy Child

In view of Gordon's experience with children at risk and their parents, what would he tell someone who asked, "What can I do to help make sure that my baby will be of good emotional health and have a sound mind? What can I do to help prevent emotional maladjustment or underachievement?"

Gordon responds:

"The first thing I would say is, 'Relax and enjoy your child. Don't get anxious. Realize that over the years you will probably make a variety of mistakes but that what gets communicated to the child is not the trauma of any specific act of yours but your own overall attitude.

"Sit down with your partner and talk openly about what the two of you think is important, what your hopes and expectations for a child are, how you think a child should behave. One thing that gets kids into trouble is differential behavior by the parents—when one parent allows and the other parent disallows.

"The first things a child needs are order, and continuity, and security. This means that you and your partner have to have some areas of agreement on how to raise this child. Authorities by and large do not agree that there is only one right way to raise a child. But they do agree that the child should not be subjected to varying types of rearing. And they do think, with reason, that a completely chaotic, permissive environment is destructive. There must be some rules, there must be some regulations, there must be some standards."

"The second thing I would say is: 'You need to develop some sensitivity as to the individuality of your child and not hold him up against some external norms. You'll hear a good deal, if you talk to authorities on child development, about the importance of stimulation. You need to realize that the most stimulating thing in a child's environment is the adult—not a toy, not a mobile, not a fancy crib, but interaction with another human being. Piaget says that the most interesting object in the child's world is the mother. I would say that the father is just as critical.

"If you choose to have a child, both of you must set aside some portion of the day—even if you are both working—that belongs exclusively to the child. You don't have to put it on a schedule. You don't want to say: 'Now, kid, it's 5 o'clock. I'm going to interact with you until 5:15 and then go have my martini.' That child sometimes needs you more than he needs anything else. If you're going to have a child, that's your first obligation.

"Even if one of the parents is home, the child doesn't need constant care. You don't have to be bothering him 24 hours a day. Some people used to say that the Israeli kibbutz—a communal settlement—would destroy the family. But it has been shown that a child of the kibbutz is just as much attached to the parent as other children are. That's because a part of each parent's day is the child's time.

"Of course, if the parent is home during the day, the interaction—the fun, the play, the dialogue—may be at odd moments: 2 minutes here, 5 minutes there, 30 seconds somewhere else.

"Another thing to realize is that you cannot separate—if you are at home—child care from child development. This means that while you're changing a diaper, for example, you have an opportunity to look at your child's face and smile. While you're dressing a child, you can rub a tummy. While you're feeding the child, you can talk. These are not simply physical care times; they are also learning times. The things to do are simple, yet they are important to the child's emotional and intellectual development—and they don't require any extra time."

Gordon adds: "Those are the sort of things that typically the lower-class mother does not do. And they are increasingly the sort of things the middle-class mother does not do either."

For instance, he finds middle-class parents more and more interested in books on basic child development. He attributes this to a number of factors, such as the increased isolation of young people from their own parents (who, it is presumed, would have some folk knowledge concerning babies to impart to their own offspring), and also to the fact that many young parents have never handled infants prior to having their own. Given such isolation and inexperience, they turn to the professionals for guidance. While parenting may be in part good intuition, it appears from the work of people such as Dr. Gordon that it can also be given a substantial boost by appropriate, well-timed training. Such training may be vastly improved by the dissemination of understandable information as to how to provide such training.

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